AGRICULTURAL POLICY IN WAR-TIME, WITH SPECIAL REFERENCE TO THE MAINTENANCE AND EXPANSION OF AGRICULTURAL PRODUCTIVITY

AUTHOR(S):

Yagi, Yoshinosuke

CITATION:

Yagi, Yoshinosuke. AGRICULTURAL POLICY IN WAR-TIME, WITH SPECIAL REFERENCE TO THE MAINTENANCE AND EXPANSION OF AGRICULTURAL PRODUCTIVITY. Kyoto University Economic Review 1939, 14(1): 20-39

ISSUE DATE:

1939-02

URL:

https://doi.org/10.11179/ker1926.14.20

Kyoto University

Economic Review

MEMOIRS OF
THE DEPARTMENT OF ECONOMICS
IN
THE IMPERIAL UNIVERSITY OF KYOTO

VOLUME XIV
1939

PUBLISHED BY THE DEPARTMENT
OF ECONOMICS IN
THE IMPERIAL UNIVERSITY OF KYOTO

AGRICULTURAL POLICY IN WAR-TIME, WITH SPECIAL REFERENCE TO THE MAINTENANCE AND EXPANSION OF AGRICULTURAL PRODUCTIVITY

By YOSHINOSUKE YAGI

I

The agricultural policy of any country necessarily aims at the furtherance of the development and prosperity of agriculture, but different views are held by scholars as to what state of agriculture should be regarded as most developed and prosperous. At least two different points of view have hitherto prevailed on this point.

One is based, so to speak, on the science of agricultural management; it lays special stress on the prosperity of individual farmers engaged in agricultural production. Economists of this school attach importance to the productivity of unit farm labour, believing, as they do, that the livelihood of farmers can be economically improved by increasing it. They maintain that the decline of productivity per unit area of agricultural land does not matter much but that the productivity of unit farm labour must by all means be increased. There are many who subscribe to this point of view. Mr. F. Aereboe, a distinguished German scholar of the science of agricultural management, discussing post-bellum measures for the development of agriculture in his country, writes: "Es kommt daher alles darauf an, die Produktivität der Landwirtschaft zu steigern, ohne dass deren Aufwendungen vermehrt und verteuert werden. Weiter muss dieses Ziel auch bei mässigen Preisen der Agrarprodukte mit allen Mitteln angestrebt werden. Das wichtigste hierbei in Betracht kommende Mittel ist aber die Steigerung

der persönlichen Leistungen der Landwirte."[1] He thus emphasises the necessity of increasing the productivity of unit labour engaged in farming. Mr. J. S. Davis, an American economist, also maintains that an increase in the productivity of unit labour engaged in farming is necessary for elevating farm standards of living. He writes: "If one compares sections of the United States, or different countries of the world, one finds no direct association between a high proportion engaged in farming and high levels of efficiency in agriculture or of farm standards of living. On the whole, with some exceptions, the tendency is toward inverse correlation."[2] In short, economists of this school of thought contend that, in order to augment the livelihood of the farming class, it is more important to increase the productivity of unit farm labour than to increase productivity per unit area of farm land.

The other point of view considers agricultural development and prosperity not only in terms of the interests of individual farmers but in terms of the interests of national economy as well. Furthermore, while not disregarding the special bearing of agriculture on national defence, it takes the line that this industry must produce foodstuffs in plenty and be capable of maintaining a large farm population of good physique. Accordingly, economists of this school contend that, no matter how high the productivity of unit farm labour may stand, the agriculture of a country cannot be said to be well developed and prosperous, if productivity per unit area of farm land falls so low that the agricultural productivity of the country — in particular the production of foodstuffs — cannot satisfy the domestic demand, with the result that large quantities have to be imported from abroad, and if the agricultural population declines considerably in

1) F. Aereboe, Der Einfluss des Krieges auf die landwirtschaftliche Produktion in Deutschland, 1927, S. 194.

2) J. S. Davis, Agricultural Fundamentalism (Economics, Socioiogy and the Modern World, Essays in Honour of E. N. Carver) 1935, p. 18.

consequence of a fall in productivity per unit area of farm land.

It may, at first sight, appear at once incongruous and impossible for the home production of food crops to be inadequate to meet the domestic demand for foodstuffs and for the farm population to decline considerably, when the productivity of unit labour engaged in farming stands high, but, as a matter of fact, such a state of affairs is possible. Any doubt on this point may be dispelled, if one stops to consider the present state of agriculture in England. Since the industrial revolution, England has subscribed to the principle of basing the State economy on commerce and industry, leaving agriculture to take care of itself. As a result her agricultural interests have suffered severely from the heavy inflow of cheap grain from abroad, and her agricultural population has gradually dwindled until it now represents only eight per cent. of the total. Food crops produced in England are inadequate to supply her domestic demand, particularly as regards the supply of grain. The domestic production of wheat and flour, especially as materials for bread, is so poor that it supplies only 21 per cent. of the total domestic demand.[3] What policy, then, did the British agricultural interests adopt in these circumstances? On this point, Dr. Kawada writes: "..... but in a country where economics are highly developed and commerce and industry have attained such a degree of prosperity that they form the very basis of the State, agriculture, already intensive, will certainly tend to become more extensive. In such circumstances, it is inevitable that those who formerly invested their capital and labour in agriculture should tend to transfer their investments to commercial and industrial enterprises which are more profitable, leaving agriculture to become more extensive. The state of British agriculture in recent years is a case in point."[4] We may say, therefore, that the

3) J. A. Venn, The Foundations of Agricultural Economics, 1935, p. 480.
4) S. Kawada, Agricultural Economics, p. 152.

British farmer has made farming extensive in order that the marginal productivity of farm labour might equipoise at a point much higher than before. Hence, although the productivity of unit farm labour has certainly been kept high, both the agricultural population itself and the production of foodstuffs in England have witnessed a marked decline due directly to more extensive farming. This state of agriculture can hardly be regarded as reflecting a high level of agricultural development and prosperity.

Mr. R. J. Thompson, comparing the productive power of agriculture in England and in Denmark, gives, in units of hundredweights, the average grain crops per acre for the years from 1920 to 1924. According to his figures, wheat stands at 17.6, barley at 14.9 and oats at 13.6 in England, while in Denmark, wheat is put at 22.9, barley at 18.7 and oats at 14.3.[5] From the foregoing, it will be seen that the productivity of Danish agriculture per unit area is higher than that in England. Mr. Thompson attributes the higher productivity of Danish agriculture mainly to the attachment of Danish farmers to their lands and partly to the fact that they are contented with a lower rate of compensation than their British confreres for the money and labour which they invest in farming.[6] In other words, Danish farm labour is more intensive than British farm labour, and the marginal productivity of farm labour is lower in Denmark than in England. Yet, no one can claim that British agriculture is more developed and prosperous than Danish agriculture. Thus, it will be seen that high productivity of unit farm labour is not the sole criterion by which to measure the degree of agricultural development and prosperity.

Which of the two types of agricultural development and prosperity referred to is the more desirable for Japan? In my opinion, the latter type of agricultural development and

5) R. J. Thompson, The Productivity of British and Danish Farming (The Journal of the Royal Statistical Society, March, 1926) p. 219.

6) Ibid, p. 238.

prosperity is preferable. Needless to say, Japan's agricultural population is disproportionately large for her limited area of arable land, so much so, in fact, that the average area of arable land per farm family is only 1.08 *cho* (or about 2.45 acres). In order to support itself upon the revenue derived from this small area of farm land, the Japanese farm family has had to make its farming intensive. Its constant care has naturally been to increase productivity per unit area of arable land. It is, indeed, due to the earnest efforts made to maintain and increase productivity per unit area of arable land that Japan is now in a position to supply her domestic demand for foodstuffs, despite the extensive development of her commerce and industry. It is also due to the same cause that Japan is able to maintain a higher percentage of agricultural population than other countries. Japan's agricultural population represents 48 per cent. of her total population, whereas the agricultural populations of England, Germany and France stand at 8, 30 and 38 per cent. respectively. This relatively large agricultural population not only supplies an enormous domestic market for urban commerce and industry but constitutes the source of a plentiful supply of cheap labour. In England, where the agricultural population has witnessed a marked decrease, the rural population cannot be drawn upon to supplement the urban labour supply, so that few changes occur in the composition of urban labour. Urban labourers, therefore, become rigidly fixed in their trades, and their demands for higher wages tend to weaken the economic power of the country. The agricultural population of Japan, which, as already mentioned, is so large that it represents 48 per cent. of the country's total population, is furthermore an important element in national defence. Farmers are of good physique and inured to hardships and privations. The possession of such sturdy people in large numbers is Japan's chief asset, especially in war-time. Similarly it is a source of strength to Japan that, while her commerce and industry are maintained in a highly developed state, her agriculture is also kept in such a pros-

perous condition that she is self-supporting in the matter of food supplies while her agricultural population itself continues to remain large. All this is ascribable to the maintenance at a high level of productivity per unit area of arable land, or, in other words, to the maintenance or increase of the total productive power of agriculture. Why Germany and Italy have recently been making such special efforts to increase agricultural population must be obvious in the light of this explanation.

In the forgoing observation, I have deliberately left the question of the demand for agricultural products out of consideration. It hardly needs to be emphasized that as a country's population increases, the demand for agricultural products also grows. In disregard of this circumstance, England developed her agriculture extensively, with the inevitable result that she is now obliged to import not only primary agricultural products but agricultural foodstuffs as well largely from her Dominions but also from foreign countries. A country like England which has large colonial possessions may be able to supply her domestic needs with imports from her own Dominions and other possessions, but Japan, whose colonial possessions are limited in area, would have to rely largely on foreign countries for the supply of foodstuffs, should her agriculture ever become very extensive. Even conceding that the shortage of food supplies resulting from extensive farming might be made good by imports from her overseas possessions, such a situation must be found far from satisfactory. We urge the necessity of increasing the production of foodstuffs at home, not because shipping in the Korean strait and on the Formosan route may be exposed to risks in war-time, but because we fear a decline in Japan's agrarian population due to extensive farming, for it seems inevitable that extensive agriculture should cause a decline in the country's agrarian population. Another point calling for attention is that whereas, in the present Sino-Japanese conflict, large numbers of Japanese farmers have joined the colours, no Korean or Formosan

farmers are fighting at the front. If agriculture in Japan proper should ever become extensive, that in Japan's overseas possessions must necessarily be made intensive and its productivity increased in order to make up for a decrease in agricultural production at home, so long, of course, as the demand for agricultural products remains unchanged. But it must be remembered that once agriculture in the colonial possessions is made intensive and the markets for the resultant increased output become fixed, it will be extremely difficult to render it extensive again. Moreover, it must not be forgotten that when the war is over, the discharged soldiers who return to their country homes will for the most part resume their agricultural pursuits. Supposing that Japanese agriculture which had been rendered extensive in war-time should become intensive again after the war through the return of these discharged soldiers to the plough, over-production would naturally result and friction would develop between agriculture in Japan proper and agriculture in the overseas possessions. It would, therefore, be poor policy to let domestic agriculture become too extensive. In war-time, of course, the supply of agricultural products is liable to fall short of the demand, and therefore efforts must be made to increase the total agricultural production in Japan, in the overseas possessions, in Manchuria and North China, as a whole, regarding these countries, of course, as forming a bloc. In doing so, however, care must be taken to see that agriculture in Japan does not suffer in such a way that the country's capacity for maintaining an agricultural population is seriously impaired.

Inasmuch as, in war-time, the demand for agricultural products shows a tendency to increase and the supply to decrease, for the reasons described below, it is important for as to make special efforts to maintain or increase the total agricultural production in Japan by keeping the yield per unit area of arable land unaffected, so far as this is possible. The war-time agricultural policy must, therefore, necessarily aim at the maintenance or increase of the total agricultural

production of the country, and not at the increase of productivity per unit labour engaged in farming. When Mr. F. Aereboe urged the necessity of increasing productivity per unit farm labour, as noted above, he had in view the post-war agricultural policy of Germany; he was not advocating the course as fit for agriculture in war-time.

II

As I have already explained, the total agricultural production of the country must be maintained or increased in war-time by upholding or expanding its total agricultural productive power, for, in time of war, the supply of agricultural products — agricultural foodstuffs especially — is apt to fall short of the demand. One may naturally ask why this should be the case.

Let me first consider how the war situation in general affects the demand for agricultural products.

(1) It may, at first sight, appear that what takes place in war-time is simply a transfer of soldiers and horses from Japan to the front, and that consequently there ought to be no change in the total consumption of foodstuffs and forage, but the mattar is not so simple as this. No matter how efficiently the transportation of foodstuffs and forage is carried out at the front, it is absolutely necessary for large stocks of supplies to be held in reserve behind the lines, if the advancing troops are to be adequately fed at all times. This precaution is all the more necessary where few transportation facilities are available. The further the battle lines are extended, the greater must be the stocks held in reserve. This circumstance alone brings about an increase in the demand for agricultural products.

(2) The amount of caloric energy which one requires physically varies according to the relative violence of one's bodily exertions. On the battlefield where soldiers are called upon to undertake almost superhuman tasks, they naturally need extra caloric energy and consequently a greater quan-

tity of nutritious food. It, therefore, follows that in war-time there is a larger demand not only for rice, barley and other grain but for meat and vegetables as well.

(3) The absorption of farm labour into the munitions industry in war-time is another cause for an increase in the demand for rice, for farmers who move to town abandon their former mixed-cereal diet in favour of a purely rice diet. It is clear from these facts that the demand for agricultural foodstuffs must increase in war-time.

Next, as to the supply aspect of agricultural products:

(1) In war-time, a large number of farmers join the colours, and as these mobilised soldiers are all men in the prime of manhood, their calling-up causes a marked decline in farm labour man power. The loss is particularly severe in the case of families, in which the father is called up.

(2) In war-time, a large number of horses are commandeered, and this is bound to affect agricultural efficiency, for it is commonly held that the labour power of one horse is equivalent to that of four men. At the end of 1935, the number of horses over four years old in Japan stood at 1,180,000, of which the Hokkaido and the six North-Eastern prefectures supplied 490,000. The shortage of horse power will be felt with especial keenness in the North- Eastern districts where the period of agricultural production is short and where, consequentry, all farming operations have to be carried out within a limited period of time.

(3) As, in war-time, a certain portion of the available farm labour is naturally absorbed by the prosperous munitions industry, the shortage of labour in the agrarian districts tends to be accentuated.

(4) As more sulphate of ammonia factories will be converted into munitions factories, as the war drags on, there is a further fear that the supply of nitrated fertiliser may fall short of the demand. Again, the shortage of farm labour will reduce the output of manure from mown grass, while the requisitioning of horses will likewise diminish the production of farmyard fertilisers.

This shortage in the supply of labour, in animal power and in fertiliser will eventually compel agriculture to become more extensive, with a corresponding decrease in the total supply of agricultural products. Such being the case, every effort must be made in war-time to adjust the demand and supply of agricultural products through the maintenance of the total productivity of agriculture, so as to preclude a rise in the price of agricultural produce resulting from a shortage in supply.

But as Japan has a considerable surplus of farm labour in time of peace, both seasonally and absolutely, the shortage of farm labour caused by the mobilisation of farmers will tend to be relatively far smaller, as compared with certain other countries, which have practically no surplus farm labour or are even somewhat short of it in ordinary times. Moreover, as Japan — taking Japan proper and her colonial possessions together — enjoys self-sufficiency in the supply of foodstuffs in time of peace, she will be secure from that disastrous food shortage which, during the world war, so harassed those European countries which were dependent on outside sources for their foodstuffs. It cannot be denied, however, that, as hostilities continue and assume ever larger dimensions, the supply of agricultural products is bound to decrease to a greater or less extent. Adequate measures to meet such a situation must therefore be devised in good time.

In conjunction with the tendency for tne supply of agricultural foodstuffs to decline in war-time, careful attention ought to be directed also to the possibility of fluctuations in the annual yields of certain agricultural crops. Weather conditions cannot be favourable every year. Furthermore, as a bumper crop involves the extraction of much nutriment from the soil, it is usual for bumper years to be followed by a few lean years. The following analysis of the rice crop illustrates this truth:—

Table No. 1.

The yield of rice per unit area in Japan and its oversea possessions.

Years	Yield per *tan* (0.245 acres) (In the cases of Formosa, per *ko*[1])		
	Japan (In *koku*[2])	Korea (In *koku*)	Formosa (In *koku*)
1893	1.34		
1894	**1.53**		
1895	1.43		
1896	1.29		
1897	1.18		
1898	**1.68**		
1899	1.39		
1900	1.46		6.80
1901	1.64		8.93
1902	1.29		8.43
1903	1.62		9.60
1904	**1.78**		**10.07**
1905	1.32		9.43
1906	1.59		8.39
1907	1.68		9.27
1908	1.77		9.43
1909	**1.78**		9.37
1910	1.58	0.76	8.60
1911	1.73	0.82	9.09
1912	1.67	0.76	8.15
1913	1.65	0.83	**10.05**
1914	1.87	0.95	8.94
1915	1.83	0.85	9.45
1916	1.90	0.91	9.56
1917	1.77	0.89	**10.05**
1918	1.76	**0.98**	9.29
1919	1.95	0.82	9.60
1920	**2.02**	0.95	9.39
1921	1.76	0.93	9.74
1922	1.93	0.96	10.33
1923	1.76	0.97	9.29
1924	1.81	0.83	11.09
1925	1.89	0.93	**11.34**
1926	1.76	0.96	10.62
1927	1.95	**1.08**	11.43
1928	1.88	0.89	11.26
1929	1.85	0.84	11.06
1930	**2.06**	**1.15**	11.63
1931	1.70	0.94	11.44
1932	1.85	0.99	**13.06**
1933	**2.23**	1.07	12.00
1934	1.63	0.97	13.21
1935	1.79	1.05	13.03
1936	2.10	1.21	13.60
1937	2.06	**1.63**	**13.62**

1) One *ko* is equivalent to 2.22 acres.

2) One *koku* is equivalent to 4.963 bushels.

As will be seen from the above table, rice was a bumper crop in 1894, and it was not until 1898 that a more abundant crop was harvested. Similarly a crop heavier than that of 1904 was not harvested until 1909. Again, it was not until 1930 that the country enjoyed a rice crop more abundant than that of 1920. It is also on record that the unprecedentedly rich harvests in 1933 was followed by two years of poor harvests. A similar tendency was observable in Korea also. In Eormosa, where rice is harvested twice a year, the contrast has not been so marked, though the same tendency is nevertheless noticeable. Inasmuch as the rice crop in Japan was fairly abundant last year and that in Korea and in Formosa particularly so, there is no occasion for excessive optimism regarding the prospects of the rice harvest this year. All necessary measures must, therefore, be earnestly considered to provide against a possible failure of the rice crop.

III

In war-time, efforts must, of course, be made to maintain or even to expand the total productive power of agriculture, but as the total productivity tends to decline owing to the shortage of labour and animal power, it may be suggested that mechanical power should be utilised to make up for this shortage. In this connection, however, the following factors ought to be duly considered. (1) In view of the fact that in war-time machinery manufacturing plants are mobilised and transformed into munitions factories, the out-

Table No. 2.

Distribution of agricultural implements.
(At the end of November, 1935.)

Kinds	Number
Motor cultivators {Cable-type cultivators	11
Motor cultivators {Tractors	211
Motor horticultural machines {Sprayers	636
Motor horticultural machines {Fruit-selectors	46
Motor fertilizer machines (for pulverising, pounding and mixing)	5,903
Thrashing machines	91,735
Hulling machines (rice)	104,498
Hulling machines (barley, wheat, etc.)	13,749
Rice-cleaning machines	51,116
Machines for cleaning barley, wheat, etc.	16,368
Mills	8,866
Vermicelli-making machines	1,340
Starch-making machines	1,244
Straw-beating machines	8,175
Mat-making machines	4,127
Rope-making machines	17,988
Hemp-peeling machines	1,585
Tea-manufacturing machines	81,042
Centrifugal pumps	16,467
Vertical pumps	16,146

Note: The figures in the above table were taken from the Report of an inquiry made by the Agricultural Affairs Bureau and published in March, 1937.

put of the agricultural implement industry is naturally impeded. (2) In Japanese agriculture, it is difficult to mechanise the entire process of production.

It is very difficult to mechanise the process of cultivation, because, in Japanese agriculture, not only are farming operations conducted on a small scale but individual farm families have their fields scattered in different places, instead of having them grouped around one center.[7] For this reason, mechanisation in Japanese agriculture has so far been largely confined to harvesting operations such as thrashing and hulling, to working up agricultural products and to irrigation and drainage, rather than to cultivation in the narrower sense. This is indicated in the table. No. 2.

Table No. 3.

The local distribution of grain processing machines.

	Total number of thrashing and hulling machines	Average number of farm families to which one machine is allotted	Average area of arable land to which one machine is allotted (In *cho**)
Hokkaidō	24,150	8	8
Tōhoku (North-East)	10,716	59	52
Kwantō	26,880	33	15
Hokuriku	54,507	7	6
Tōsan	4,260	101	36
Tōkai	11,155	42	20
Kinki	15,170	37	21
Chūgoku	40,705	15	8
Shikoku	7,681	48	19
Kyūshū	14,719	60	23
Okinawa (Luchus)	39	—	—
Total	**209,982**	**26**	**15**

Note: One *cho* is equivalent to 2.45 acres.

7) In a plantation at Kojima-gun, Okayama prefecture, a large number of small-sized tractors are being employed, but this is an exceptional case.

In the processes of agricultural production which concern thrashing and hulling of grains and the working up of agricultural products, mechanisation has made some progress. Moreover, as it is comparatively easy to put machines into wider use in these particular processes, it is to be hoped that no serious shortage of labour will be experienced in this connection. Mechanisation in these processes is far from being either general or uniform, as can easily be seen from the distribution of thrashing and hulling machines in different districts, as given in the table. No. 3.

Thrashing and hulling machines are distributed throughout the country on the average at the rate of one per 15 *cho* of arable land, but in the North-Eastern districts we have only one machine per 52 *cho*. Other circumstances being the same, therefore, it is obvious that a shortage of labour will bear very heavily on these districts.

As compared with the processes concerned with the thrashing and hulling of grains or the working up of agrarian products, the organic processes such as field cultivation, sowing, the transplanting of young rice, manuring, weeding and reaping, afford little room for mechanisation, and therefore the war-time shortage of farm labour and animal power will be felt most keenly at these stages. (1) The shortage of labour will affect the work of sowing and rice planting in particular, as the time allocated to these operations is both rigidly fixed and limited. This is especially so in the North-East and in the Hokuriku district, where rice-planting operations have to be completed in so short a period that the farmer cannot alter the date of the process to suit his own convenience. (2) The work of tilling the fields, preparing arable lands or weeding can be accelerated or deferred within limits and according to circumstances, so that the effect of the shortage of labour is not likely to be so disastrous. (3) Similarly, it is comparatively easy to contrive to avoid the keen edge of the shortage of labour as regards irrigation, drainage and weeding operations and in

the harvesting and marketing of vegetables, through a proper use of the labour available, since these operations are spread over a fairly long period and the amount of labour required daily is relatively small, though the total requisite volume of labour may be large. For irrigation and drainage purposes, motor pumps are already fairly widely used, and it is desirable that they should be utilised even more extensively in order to make up for the war-time shortage of labour.

Again, as the following table shows, the amount of labour required during the entire course of production, from preparation of the land for sowing to the harvesting of the crop, varies greatly according to the kind of crops sown.

Thus, the amount of labour required differs considerably according to the crop, and the war-time shortage of labour tends to cause a transition from the more intensive to the more extensive crops. But this variation must not be left to the discretion of individual farm families, for, in that case, the war-time requirements of the State might not be adequately met. In time of war, therefore, stricter official control than is practised in time of peace must be exercised over agricultural production and manage-

Table No. 4.

Labour power requisite for the cultivation of one *tan* of land under various crops. (In "the number of persons employed" a day's work is calculated as one person employed.)

Kinds	Number of persons employed
Marsh-grown rice	25.7
Upland rice	23 5
Barley	23.3
Wheat	19.4
Millet	15.4
Sesame	19.0
Soya-beans	12.0
Red-beans	13.8
Horse-beans	17.5
Peas	31.0
Kidney-beans	38.5
Egg-plants	106.5
Tomatoes	92.5
Water-melons	42.0
Cucumbers	79.0
Burdock	68.0
Sweet potatoes	30.0
Potatoes	25.0
Taro	29.0
Cabbage	36.5
Stone-leek	51.0
Tobacco-plant	88.0
Mulberry	22.8

ment in order to maintain or possibly to increase the total productivity of Japanese agriculture. In this connection, the following measures may be suggested :—

(1) In the first place, co-operative work should be encouraged to make up for the shortage of labour. By promoting co-operative activities in the various stages of agricultural production, viz. in the preparation of the rice-beds, in the planting of the rice, in the cultivation of the fields, in weeding and in reaping, and also in the work of thrashing, working up and packing agricultural products, labour efficiency must be enhanced. Such measures will also help to ensure the proper adjustment of the demand and supply of labour in respect of individual farm families and in each hamlet. Fortunately, Japan has numerous agridultural executive guilds — small societies of farmers — which are in a position to direct such co-operative action, and it is desirable that these guilds, which totalled 133,000 in April, 1933, should display even greater activity in war-time. It is equally desirable that the " public labour service organisations " which are at present at work in all villages, should be properly linked to the programme of the local agricultural executive guilds and thus encouraged to greater activities along these lines. Particularly desirable is it that the local agricultural executive guilds should undertake to draw up agricultural plans and implement their execution for the benefit of the farm families where the father is at the front. The agricultural societies and farmers' co-operative societies (*sangyō kumiai*) with which these guilds are affiliated should also give them the necessary co-operation and guidance. Further, a redoubled activity on the part of utilisation guilds is called for in order that the shortage of animal and mechanical power may be adequately offset.

(2) Since many able-bodied men in the prime of manhood must necessarily join the colours in war-time, the labour of old men and women — the labour of women especially — acquires special importance in agricultural pursuits. The participation of women in Japanese agriculture

is shown in the following table:—

Table No. 5.

Ratio of men and women employed in agricultural work.

	Total number	Classified		Ratio	
		Men	Women	Men	Women
				%	%
Farm workers	14,140	7,743	6,397	**54.8**	**45.2**
Agriculture	13,549	7,454	6,095	**55.0**	**45.0**
Stock-farming	61	45	16	**73.8**	**26.2**
Sericulture	355	99	256	**27.9**	**72.1**
Forestry	175	145	30	**82.9**	**17.1**

Note: The figures in the above table were taken from the 1930 Census Report.

It will be seen from the above table that women constitute 45 per cent. of the total of purely agricultural workers, while in sericulture, for example, they represent 72 per cent. of the total employed.

Table No. 6.

Working days and hours of agricultural workers, classified according to sex and age.

	Working days			Working hours per day of work		
	Men (A)	Women (B)	$\frac{B}{A}$	Men (A)	Women (B)	$\frac{B}{A}$
	days	days		hours	hours	
Under 15	75.1	50.4	67	6.5	6.1	93
16—20	185.7	139.8	75	8.5	7.6	89
21—30	238.0	196.7	83	8.2	7.7	93
31—50	241.0	209.6	87	9.0	7.9	88
51—60	251.2	163.2	65	8.7	6.8	78
61—70	187.8	130.1	69	8.3	5.7	69
Over 71	199.5	40.3	20	5.8	5.0	86
Average	**196.9**	**132.8**	**67**	**7.9**	**6.7**	**85**

Note: The figures in the above table were worked out from the figures mentioned on pp. 169 — 171 in a book entitled "Various Problems of Agricultural Management" by Mr. Yukio Ishibashi.

The working days per year and working hours per day for male and female farm workers, classified according to age, are given in the above table.

On the average, women's working days represent 67 per cent. of the working days for men, and their working hours per day 85 per cent. That women work fewer days and for shorter hours is due, apart from physical conditions peculiar to women such as childbirth, etc., to the fact that they have to attend to household duties such as cooking and the care of children. If, therefore, the shortage of male labour is to be compensated for by female labour, it will be necessary to relieve women of the burden of domestic work by providing public nurseries and common kitchens. Care must be taken, however, to avoid putting such a heavy burden of farm labour on women that their health may be impaired.

(3) In war-time, the supply of agricultural products is apt to fall short of the demand, causing prices to rise. It is, therefore, important that everything possible should be done to maintain and expand the total agricultural productivity so that the demand and supply of agricultural products may be properly adjusted through an increased total agricultural production. This provides the best means of checking a rise in the prices of agricultural products. In order to cope successfully with the exigencies of prolonged warfare, it is necessary (1) to ensure the smooth supply of agricultural products for military use by increasing production, (2) to expand the production of those agricultural products, the export of which will tend to improve the balance of international accounts, and (3) to secure such an adequate supply of agricultural foodstuffs as will ensure the livelihood of the nation. With the above-mentioned objects in view, a careful inquiry must be made into (1) the kinds of crops whose production should be increased, (2) those whose production should be maintained at the present level, and (3) those for which other crops should be substituted. On the basis of this inquiry, agricultural production in the

individual villages must be properly controlled. Thus it follows that agricultural production calls for stricter control in war-time than in peace-time. In this regard, the following two points deserve careful consideration :—

Firstly, in order to stabilize national life in war-time, it is essential that agricultural products, foodstuffs especially, should be supplied to consumers at moderate prices. It is, indeed, incumbent on farmers to give practical expression to their patriotism in war-time and to try to sell their produce at the lowest possible prices. On the other hand, excessively low prices for agricultural products may cause insecurity in farm life and may seriously hamper the productive activity of the whole farming class. What is most important is that the prices of agricultural products should be maintained at a proper level, so that the livelihood of the consumer may not be seriously imperilled on the one hand, or excessive pressure put on the farmer on the other. Again, in order to enable farmers to lower the prices of their products, the cost of agricultural production itself must be reduced. From this point of view, pertinent measures must be taken to keep at a proper level the price of fertiliser, the price of the farmer's domestic necessities, and farm rentals, which constitute the main items of the cost of living in the agricultural sphere.

Secondly, as regards the increased production of agricultural products and the control of production, concrete plans for the agricultural production for each region must be drawn up, in accordance with the principle of the right crop for the right soil, and bearing in mind the problems of interdependence due to the organization of the economic *bloc* composed of Japan, the overseas possessions, Manchoukuo and North China. In this connection, pertinent State control must be enforced concerning the kinds and quantities of agricultural crops to be produced in each region, so as to preclude friction between the agricultural interests of the different regions. In view of the fact that a great many Japanese farmers are at the front, it is particularly important

to see that Japanese agriculture is not rendered more extensive in character and the country's capacity for accommodating a farming population thereby reduced.

In short, a war-time agricultural policy must aim at the maintenance and expansion of the total agricultural productivity of the country in the definite and limited sense of upholding and increasing total agricultural production.